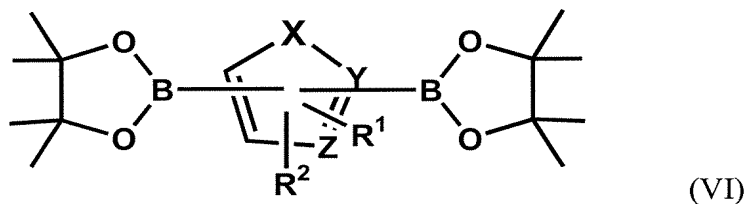
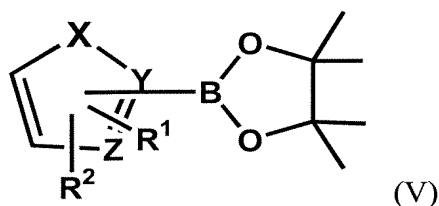


Claim Amendments

This listing of claims will replace all prior versions, and listings, of claims in the application.

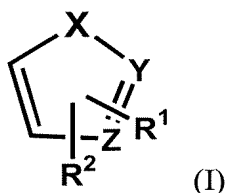
Listing of Claims

Claim 1. (Currently Amended) A ~~production~~ process of producing a heteroaryl boron compound represented with ~~general~~ by formula (V) or (VI):



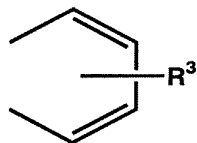
[[([)]wherein, X, Y, Z, R¹ and R² are the same as defined below[([)]], comprising:

reacting an aromatic heterocyclic compound represented with the following ~~general~~ formula (I):



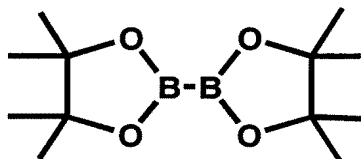
[[([)]wherein[[[,]] X represents an oxygen atom, sulfur atom or an imino group which may have a substituent, Y and Z may be the same or different and respectively represent -CH= or -N=, R¹ and R² may be the same or different and respectively represent a hydrogen atom, linear or branched C₁₋₈ alkyl group, linear or branched C₁₋₈ alkoxy group, nitro group, cyano group, halogenated C₁₋₈ alkyl group, halogen atom, carbamoyl group, C₁₋₈ acyl group,

C₁₋₈ alkoxy carbonyl group, amino group which may have a substituent, or the following general formula (II) in which R¹ and R² are adjacent and form a ring:

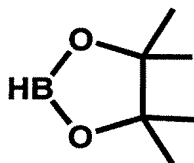


(I I)

wherein, R³ represents a hydrogen atom, a linear or branched C₁₋₈ alkyl group, a linear or branched C₁₋₈ alkoxy group, nitro group, cyano group, halogenated C₁₋₈ alkyl group, halogen atom, carbamoyl group, C₁₋₈ acyl group, C₁₋₈ alkoxy carbonyl group or amino group that may have a substituent with a boron compound represented with the following formula (III) or (IV):



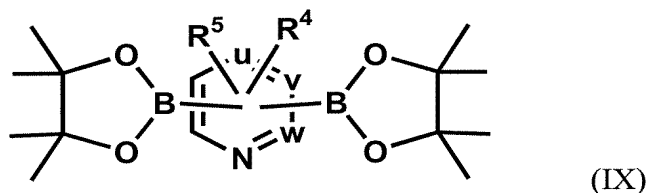
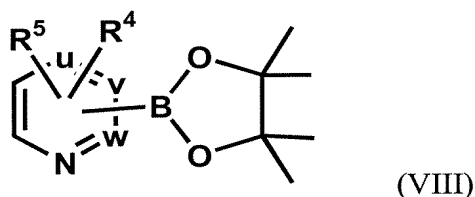
(I I I)



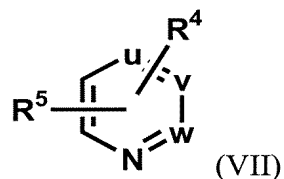
(I V)

in the presence of ~~an~~ a univalent iridium complex ~~-containing catalyst and a~~ in which the complexing ligand is a Lewis base having the ability to coordinate with univalent iridium.

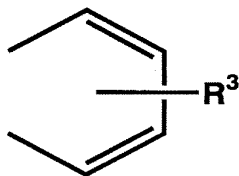
Claim 2. (Withdrawn) A production process of a heteroaryl boron compound represented with general formula (VIII) or (IX):



(wherein, u, v, w, R⁴ and R⁵ are the same as defined below) comprising: reacting an aromatic heterocyclic compound represented with the following general formula (VII):

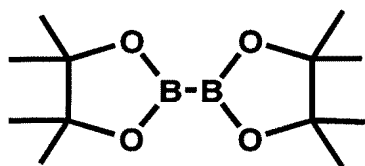


(wherein, u, v and w may be the same or different and respectively represent -CH= or -N=, and R⁴ and R⁵ may be the same or different and respectively represent a hydrogen atom, linear or branched C₁₋₈ alkyl group, linear or branched C₁₋₈ alkoxy group, nitro group, cyano group, halogenated C₁₋₈ alkyl group, halogen atom, carbamoyl group, C₁₋₈ acyl group, C₁₋₈ alkoxycarbonyl group, amino group which may have a substituent, or the following general formula (II) in which R⁴ and R⁵ are adjacent and form a ring:

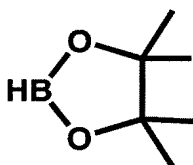


(I I)

(wherein, R³ represents a hydrogen atom, a linear or branched C₁₋₈ alkyl group, linear or branched C₁₋₈ alkoxy group, nitro group, cyano group, halogenated C₁₋₈ alkyl group, halogen atom, carbamoyl group, C₁₋₈ acyl group, C₁₋₈ alkoxycarbonyl group or amino group that may have a substituent)) with a boron compound represented with the following general formula (III) or (IV):



(I I I)



(I V)

in the presence of an iridium-containing catalyst and a ligand.

Claim 3. (Currently Amended) ~~A production~~ The process according to claim 1 or claim 2, wherein[[,]] the iridium-containing catalyst is ~~that represented with~~ has the following ~~general~~ formula (X):



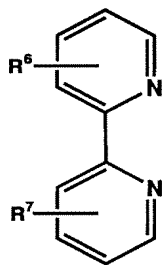
[[([)]wherein[[,]] A represents a chlorine atom, linear or branched C₁₋₈ alkoxy group, hydroxyl group or phenyloxy group which may or may not have a substituent, B represents 1,5-cyclooctadiene or 1-cyclooctene, and n represents 1 or 2.

Claim 4. (Currently Amended) ~~A production~~ The process according to claim 3,
wherein[[,]] A of the iridium-containing catalyst is a methoxy group, B is 1,5-cyclooctadiene
and n is 1.

Claim 5. (Currently Amended) ~~A production~~ The process according to claim 3,
wherein[[,]] A of the iridium-containing catalyst is a chlorine atom, B is 1,5-cyclooctadiene
and n is 1.

Claim 6. (Currently Amended) ~~A production~~ The process according to claim 3,
wherein[[,]] A of the iridium-containing catalyst is a chlorine atom, B is 1-cyclooctene and n
is 2.

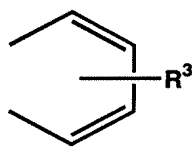
Claim 7. (Currently Amended) ~~A production~~ The process according to any of claims
claim 1 through 6, wherein[[,]] the ligand is represented by the following ~~general~~ formula
(XI):



(X I)

[[()]]wherein[[,]] R^6 and R^7 may be the same or different and respectively represent a
hydrogen atom, linear or branched C_{1-8} alkyl group, linear or branched C_{1-8} alkoxy group,
nitro group, cyano group, halogenated C_{1-8} alkyl group, halogen atom, carbamoyl group, C_{1-8}
acyl group, C_{1-8} alkoxy carbonyl group or amino group which may or may not have a

substituent, or the following ~~general~~ formula (II) in which R⁶ and R⁷ are substituted at position 6 and position 6':



(I I)

[[~~()~~wherein[[~~,~~]] R³ represents a hydrogen atom, linear or branched C₁₋₈ alkyl group, linear or branched C₁₋₈ alkoxy group, nitro group, cyano group, halogenated C₁₋₈ alkyl group, halogen atom, carbamoyl group, C₁₋₈ acyl group, C₁₋₈ alkoxy carbonyl group, or amino group which may or may not have a substituent[[~~()~~]]].

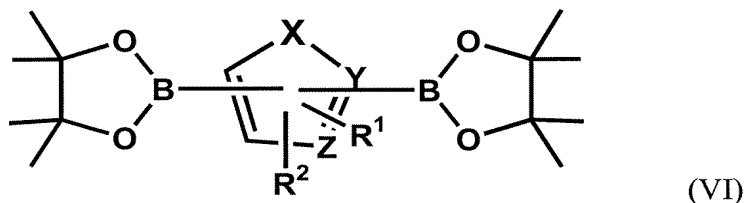
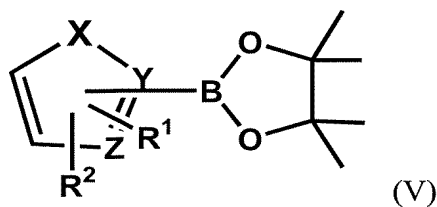
Claim 8. (Currently Amended) ~~A production~~ The process according to claim 7, wherein[[~~,~~]] the ligand is 2,2'-bipyridine.

Claim 9. (Currently Amended) ~~A production~~ The process according to claim 7, wherein[[~~,~~]] the ligand is 4,4'-di-tert-butyl-2,2'-bipyridine.

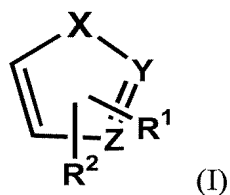
Claim 10. (Currently Amended) ~~A production~~ The process according to ~~any of claims~~ claim 1 through 9, wherein[[~~,~~]] the reaction is carried out in the presence of solvent.

Claim 11. (Currently Amended) ~~A production~~ The process according to claim 10, wherein[[~~,~~]] the solvent is a hydrocarbon.

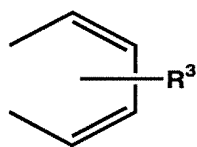
Claim 12. (New) A process of producing a heteroaryl boron compound represented by formula (V) or (VI):



wherein, X, Y, Z, R¹ and R² are the same as defined below, comprising: reacting an aromatic heterocyclic compound represented with the following formula (I):

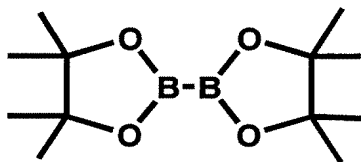


wherein X represents an oxygen atom, sulfur atom or an imino group which may have a substituent, Y and Z are each -CH=, R¹ and R² may be the same or different and respectively represent a hydrogen atom, linear or branched C₁₋₈ alkyl group, linear or branched C₁₋₈ alkoxy group, nitro group, cyano group, halogenated C₁₋₈ alkyl group, halogen atom, carbamoyl group, C₁₋₈ acyl group, C₁₋₈ alkoxycarbonyl group, amino group which may have a substituent, or the following formula (II) in which R¹ and R² are adjacent and form a ring:

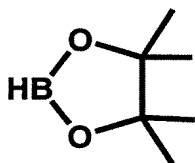


(I I)

wherein, R^3 represents a hydrogen atom, a linear or branched C_{1-8} alkyl group, a linear or branched C_{1-8} alkoxy group, nitro group, cyano group, halogenated C_{1-8} alkyl group, halogen atom, carbamoyl group, C_{1-8} acyl group, C_{1-8} alkoxycarbonyl group or amino group that may have a substituent with a boron compound represented with the following formula (III) or (IV):



(I I I)



(I V)

in the presence of a univalent iridium complex catalyst in which the complexing ligand is a Lewis base having the ability to coordinate with univalent iridium.